MANUFACTURE OF TITANIA CONTAINING INORGANIC/ORGANIC HYBRID BIOACTIVE MATERIAL

Patent Number: JP11164880
Publication date: 1999-06-22
Inventor(s): KOKUBO TADASHI;; CHIN KI
Applicant(s): NIPPON ELECTRIC GLASS CO LTD
Requested Patent: JP11164880
Application Number: JP19970352461 19971205
Priority Number(s):
IPC Classification: A61L27/00
EC Classification:
Equivalents:

Abstract

PROBLEM TO BE SOLVED: To obtain a material with excellent bioactivity usable for a bone substitutional material, by adding a hydrolytic titanium compound to an aqueous solution containing an organoalkoxysilane and end silanol type dialkylsiloxane, mixing them, and then adding a calcium salt to it and mixing and heating it.
SOLUTION: The bioactive material manufactured by adding a hydrolytic titanium compound to an aqueous solution containing an organoalkoxysilane SiR'n (OR)4-n and end silanol type dialkylsiloxane (HO(Si(R)2 O)n)H and mixing and then adding a calcium salt of inorganic acid and mixing and heating, is used as a bone substitutional material or bone reparative material. Tetraethoxysilane is preferably used as organoalkoxysilane SiR'n (OR)4-n and end silanol type polydimethylsiloxane preferably used as end silanol type dialkylsiloxane. Tetraisopropyltintanate is suitable as the titanium compound.